

REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

Claims 1-4, 6-9, 11, and 16-18 were pending in this application. Claims 1, 2, and 11 have been amended. Accordingly, claims 1-4, 6-9, 11, and 16-18 will remain pending herein upon entry of this Amendment. Support for the amendment to each of the claims can be found, for example, at page 3, lines 20-27 of the present application. For the reasons stated below, Applicant respectfully submits that all claims pending in this application are in condition for allowance.

In the Office Action mailed February 10, 2005, claims 3 and 4 were allowable. Claims 1, 2, 6, 9, 11, and 16-18, however, were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,384,893 to Hutchins ("Hutchins") in view of U.S. Patent No. 6,421,636 to Cooper et al. ("Cooper"). To the extent this rejection might still be applied to claims presently pending in this application, it is respectfully traversed.

In amended independent claim 1, a speech waveform composing means comprises pitch converting means for converting pitch by means of processing a segment of a waveform in which the waveform is converging on a segment just before a minus peak during a periodical unit of speech waveform data, and at said segment, the speech waveform being depending on vocal tract shape and being attending and converging on the minus peak. The feature of the speech waveform recited in amended claim 1 is also added to amended independent claims 2 and 11. According to the present invention, the waveform is converging on a segment just before the minus peak during a periodical unit of speech waveform data, and at the segment, the speech

waveform is depending on vocal tract shape and is attending and converging on the minus peak. By introducing this feature, the present invention can reduce the distortion of the naturalness of speech sound.

It is believed that neither Hutchins nor Cooper, singly or in any combination, teaches or suggests the above features recited in amended claims 1, 2, and 11

Hutchins describes a speech synthesize device that can change the pitch of the speech waveform. As admitted by the Examiner, Hutchins omits pitch converting means for converting pitch by processing a waveform segment converging on a minus peak during a periodical unit of speech waveform data. Hutchins, accordingly, does not disclose the feature: "the waveform is converging on a segment just before a minus peak during a periodical unit of speech waveform data, and at said segment, the speech waveform being depending on vocal tract shape and being attending and converging on the minus peak," as recited in claims 1, 2, and 11.

Cooper describes a frequency converting device where the pitch is changed on the minus or maximum peak of the waveform. Cooper, however, does not concern the change of the speech waveform. Therefore, Cooper does not analyze the nature of the speech waveform nor disclose the feature: "the waveform is converging on a segment just before a minus peak during a periodical unit of speech waveform data, and at said segment, the speech waveform being depending on vocal tract shape and being attending and converging on the minus peak," as recited in amended claims 1, 2, and 11.

Accordingly, as none of Hutchins and Cooper addresses the change of the speech waveform, it would not have been obvious for one skilled in the art to combine Hutchins and

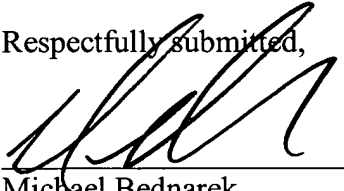
Cooper to achieve the method and device recited in amended claims 1, 2, and 11. Applicants thus respectfully submit that amended claims 1, 2, and 11 should be patentable over Hutchins in view of Cooper.

Further, at least due to their dependencies from patentable independent claims 1, 2, and 11, dependent claims 6-9 and 16-18 should be also patentable.

In view of the foregoing all of the claims in this case are believed to be in condition for allowance. Should the Examiner have any questions or determine that any further action is desirable to place this application in even better condition for issue, the Examiner is encouraged to telephone applicants' undersigned representative at the number listed below.

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